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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,358	12/19/2005	Masaru Shinohara	59383US007	5956
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3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER				
FEELY, MICHAEL J				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
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Office Action Summary

Application No.

10/561,358

Applicant(s)

SHINOHARA ET AL.

Examiner

Michael J. Feely

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4 and 5 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 2, 4 and 5 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Pending Claims

Claims 1, 2, 4, and 5 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 9, 2008 has been entered.

Claim Interpretation

2. The term (meth)acrylic acid in the instant claims includes both acrylic acid and methacrylic acid. Furthermore, the term alkyl (meth)acrylate includes both alkyl acrylate and alkyl methacrylate.

Response to Amendment

3. The rejection of claims 1 and 5 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Knapp (US Pat. No. 3,284,423) (*and further in light of Sobataka et al. (US H688)*) has been overcome by amendment.

4. The rejection of claim 3 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Knapp (US Pat. No. 3,284,423) (*and further in light of Sobataka et al. (US H688)*) has been rendered moot by the cancellation of this claim.
5. The rejection of claim 3 under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over Liu et al. (US Pat. No. 4,762,747) has been rendered moot by the cancellation of this claim.
6. The rejection of claims 1, 2, 4, and 5 under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. (WO 03/064552 A1) has been withdrawn.
7. The rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. (WO 03/064552 A1) has been rendered moot by the cancellation of this claim.
8. The rejection of claims 1, 2, 4, and 5 under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (US 2003/0124346 A1) has been overcome by amendment.
9. The rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (US 2003/0124346 A1) in view of Groves (US 5,229,206) and Sobataka et al. (US H688) has been rendered moot by the cancellation of this claim.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(a) as being anticipated by Takeda et al. (WO 03/064552 A1).

Regarding claims 1, 2, and 4, Takeda et al. disclose: *(1)* a heat resistant masking tape (Abstract; Example 1; claims 6-8), comprising: (1) a heat resistant backing film layer selected from the group consisting of polyethylene naphthalate, polyphenylene sulfide, and polyimide (Abstract; claims 6-8; Example); and (2) a non-aqueous pressure-sensitive adhesive layer disposed on a surface of the heat resistant backing film layer (Abstract; Example 1), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture comprising:

- an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (Abstract; Example 1);
- glycidyl (meth)acrylate (Abstract; Example 1); and
- (meth)acrylic acid (*acrylic acid or methacrylic acid*) (Abstract; Example 1);

the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of monomers (Example 1) and the (meth)acrylic acid (*acrylic acid or methacrylic acid*) being present in an amount of 1 to 7% by weight of the total weight of monomers (Example 1); *(2)* wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100 μm (claims 6-8); and *(4)* wherein said heat resistant backing layer has a thickness of 1 to 250 μm (claims 6-8).

Regarding claim 5, the prior art is as set forth above and incorporated herein to satisfy the instant invention.

Claim Rejections - 35 USC § 102/103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schuman et al. (US 2001/0055679).

Regarding claims 1, 2, and 4, Schuman et al. disclose: (1) a heat resistant masking tape (paragraph 0001 & 0017-0018), comprising: (1) a heat resistant backing film layer selected from the group consisting of polyethylene naphthalate, polyphenylene sulfide, and polyimide (paragraph 0019); and (2) a non-aqueous pressure-sensitive adhesive layer disposed on a surface of the heat resistant backing film layer (paragraphs 0032, 0035 & 0078-0079), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture comprising:

- an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (paragraphs 0078-0079);
- glycidyl (meth)acrylate (paragraphs 0078-0079); and
- (meth)acrylic acid (*acrylic acid or methacrylic acid*) (paragraphs 0078-0079);

the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of monomers (paragraphs 0078-0079) and the (meth)acrylic acid (*acrylic acid or methacrylic acid*) being present in an amount of 1 to 7% by weight of the total weight of

monomers (paragraphs 0078-0078); (2) wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100 μm (paragraph 0078); and (4) wherein said heat resistant backing layer has a thickness of 1 to 250 μm (paragraph 0078).

Schumann et al. disclose that PET and polyethylene naphthalate (PEN) are interchangeable polyester films (*see paragraph 0019*) for this application. Therefore, if not explicitly taught by Schumann et al., then it would have been obvious to one of ordinary skill in the art at the time of the invention to use a polyethylene naphthalate (PEN) film in their working Example 4 because they disclose that PET and polyethylene naphthalate (PEN) are interchangeable polyester films for this application.

Regarding claim 5, the prior art is as set forth above and incorporated herein to satisfy the instant invention.

14. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schuman et al. (US 2002/0114948).

Regarding claims 1, 2, and 4, Schuman et al. disclose: (1) a heat resistant masking tape (paragraphs 0001 & 0021-0022), comprising: (1) a heat resistant backing film layer selected from the group consisting of polyethylene naphthalate, polyphenylene sulfide, and polyimide (paragraph 0023); and (2) a non-aqueous pressure-sensitive adhesive layer disposed on a surface of the heat resistant backing film layer (paragraphs 0040, 0043 & 0087-0088), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture comprising:

- an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (paragraphs 0087-0088);
- glycidyl (meth)acrylate (paragraphs 0087-0088); and
- (meth)acrylic acid (*acrylic acid or methacrylic acid*) (paragraphs 0087-0088);

the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of monomers (paragraphs 0087-0088) and the (meth)acrylic acid (*acrylic acid or methacrylic acid*) being present in an amount of 1 to 7% by weight of the total weight of monomers (paragraphs 0087-0088); (2) wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100 μm (paragraphs 0087); and (4) wherein said heat resistant backing layer has a thickness of 1 to 250 μm (paragraph 0087).

Schumann et al. disclose that PET and polyethylene naphthalate (PEN) are interchangeable polyester films (*see paragraph 0023*) for this application. Therefore, if not explicitly taught by Schumann et al., then it would have been obvious to one of ordinary skill in the art at the time of the invention to use a polyethylene naphthalate (PEN) film in their working Example 4 because they disclose that PET and polyethylene naphthalate (PEN) are interchangeable polyester films for this application.

Regarding claim 5, the prior art is as set forth above and incorporated herein to satisfy the instant invention.

15. The rejection of claims 1, 2, 4, and 5 under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over Liu et al. (US Pat. No. 4,762,747) *stands*.

Regarding claims 1, 2, and 4, Liu et al. disclose: *(1)* a heat resistant masking tape (column 6, lines 40-58), comprising: (1) a heat resistant backing film layer selected from the group consisting of polyethylene naphthalate, polyphenylene sulfide, and polyimide (column 6, lines 50-58); and (2) a pressure-sensitive adhesive layer disposed on a surface of the heat resistant backing film layer (column 6, lines 40-49), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture comprising:

- an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (column 6, lines 40-49);
- glycidyl (meth)acrylate (column 6, lines 40-49); and
- (meth)acrylic acid (*acrylic acid or methacrylic acid*) (column 6, lines 40-49),

the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of monomers (column 6, lines 40-49) and the (meth)acrylic acid (*acrylic acid or methacrylic acid*) being present in an amount of 1 to 7% by weight of the total weight of monomers (column 6, lines 40-49); *(2)* wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100 μm (column 6, lines 50-58); and *(4)* wherein said heat resistant backing layer has a thickness of 1 to 250 μm (column 6, lines 50-58).

Liu et al. fail to explicitly disclose a *non-aqueous* adhesive composition. However, it should be noted that this represents a product-by-process limitation. It has been found that, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the

same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process,” – *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (*see MPEP 2113*).

Therefore, it appears that the tape of Liu et al. inherently or obviously satisfies the instant invention because all of the reactive material limitations have been satisfied. The final (dried) product would have been free of non-reactive carrier fluid (*water or solvent*), regardless of the carrier type.

Regarding claim 5, the prior art is as set forth above and incorporated herein to inherently or obviously satisfy the instant invention.

Claim Rejections - 35 USC § 103

16. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

17. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (US 2003/0124346 A1) in view of Schuman et al. (US 2001/0055679).

Regarding claims 1, 2, and 4, Yamanaka et al. disclose: **(I)** a heat resistant masking tape (Abstract; paragraph 0001), comprising: (1) a heat resistant backing film layer (paragraph 0072); and (2) a pressure-sensitive adhesive layer disposed on a surface of the heat resistant backing film layer (paragraphs 0008-0015), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture comprising:

- an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (paragraphs 0020-0021);

- an *optional copolymerizable monomer* (paragraph 0023); and
- (meth)acrylic acid (paragraphs 0022);

the *optional copolymerizable monomer* being present in an amount of 2 to 13% by weight of the total weight of monomers (paragraph 0023) and the (meth)acrylic acid being present in an amount of 1 to 7% by weight of the total weight of monomers (paragraph 0022); (2) wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100 μm (paragraph 0072); and (4) wherein said heat resistant backing layer has a thickness of 1 to 250 μm (paragraph 0072).

Yamanaka et al. disclose the use of an *optional copolymerizable monomer*, wherein the list of candidates includes glycidyl (meth)acrylate (*see paragraph 0023*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include glycidyl (meth)acrylate in the composition of Yamanaka et al. because they disclose the use of an optional copolymerizable monomer. The list of candidate monomers includes glycidyl (meth)acrylate.

Yamanaka et al. fail to explicitly disclose a non-aqueous adhesive composition. However, it should be noted that this represents a product-by-process limitation. It has been found that, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process," – *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (*see MPEP 2113*).

Therefore, it appears that the tape of Yamanaka et al. obviously satisfies the instant invention because all of the reactive material limitations have been satisfied. The final (dried) product would have been free of non-reactive carrier fluid (*water or solvent*), regardless of the carrier type.

Yamanaka et al. disclose the use of *polyester films*; however, they fail to explicitly disclose: wherein said heat resistant backing film layer is selected from the group consisting of polyethylene naphthalate, polyphenylene sulfide, and polyimide.

As set forth above, Schumann et al. also discloses acrylic PSA masking tapes. Furthermore, they demonstrate that *polyethylene naphthalate (PEN)* films are representative polyester films for this type of tape (*see paragraph 0019*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a polyethylene naphthalate (PEN) film in the masking tape of Yamanaka et al. because the teachings of Schumann et al. demonstrate that *polyethylene naphthalate (PEN)* films are representative polyester films for this type of tape.

Regarding claim 5, the prior art is as set forth above and incorporated herein to obviously satisfy the instant invention.

Response to Arguments

18. Applicant's arguments filed June 10, 2008 (see After-Final amendment) have been fully considered but they are not persuasive.

Regarding Liu et al., Applicant argues that Liu et al. fail to disclose a non-aqueous adhesive layer. As discussed above, this limitation represents a product-by-process limitation.

The adhesive layer would have been *dried* to yield the final product (*the heat resistant masking tape*). Drying would have driven off the non-reactive carrier, whether aqueous or solvent based. Therefore, it appears that the tape of Liu et al. inherently or obviously satisfies the instant invention because all of the *reactive* material limitations have been satisfied. The final (dried) product would have been free of carrier fluid (*water or solvent*), regardless of the carrier type.

Furthermore, since the carrier fluid is non-reactive in nature, it does not appear that the use of water (vs. solvent) would have materially affected the basic and novel characteristics of the instant invention. Applicant suggests that the carrier is a reactive monomer, which does not appear to be the case. In light of this, Applicant is advised to provide a showing of how an aqueous carrier fluid adversely affects the basic and novel characteristics of the instant invention.

Regarding Takeda et al., Applicant argues that a certified copy of JP 2007-184555 has been provided to overcome this reference. It should first be noted the instant case claims foreign priority to JP 2003-206343, filed August 6, 2003. Secondly, a certified translation of this document has not been furnished. Hence, the reference still qualifies under 35 USC 102(a).

Regarding Yamanaka et al., Applicant's arguments with respect to Yamanaka et al. have been considered but are moot in view of the new ground(s) of rejection.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

August 4, 2008